2002 ANNUAL REPORT OF

ELECTRIC SERVICE RELIABILITY

FOR

South Beloit Water, Gas, & Electric

(SBWGE)

Filed
July 11, 2003

July 10, 2003

[411.120 b)3) A)]:

A plan for future investment and, where necessary, reliability improvements for the jurisdictional entity's transmission and distribution facilities that will ensure continued reliable delivery of energy to customers and provide the delivery reliability needed for fair and open competition, along with the estimated cost of implementing the plan and any changes to the plan from the previous annual report.

i. The plan must cover all operating areas, including a description of the relevant characteristics of each operating area and the age and condition of the jurisdictional entity's equipment and facilities in each operating area.

The South Beloit Water, Gas and Electric (SBWGE) service territory includes the villages of South Beloit and Rockton, which are predominately urban, and the surrounding rural areas in the townships of Rockton and Roscoe, Winnebago County. A 69 kV networked transmission system owned and operated by American Transmission Company, LLC supplies the SBWGE territory. The territory is served by a radial 12.47 kV distribution system from four 69/12.47 kV substations supplied by the transmission network.

ii. The plan shall cover a period of no less than three years following the year in which the report was filed.

A planning study of the entire SBWGE territory was completed in 2001. Data considered in the study included the existing system capacity and loads, voltage levels at peak loads under normal switching conditions and the contingency loss of any substation transformer, reliability indices and outages by cause for each circuit, and projected load growth in the area for the next 10 years.

iii. The plan shall identify all foreseeable reliability challenges and describe specific projects for addressing each.

- Rockton, IL is a rapidly growing area, in part due to SBWGE's competitive rate structure and the lower taxes of Illinois. Approximately 300 new houses and companion small commercial loads are added to the area annually.
- A new school and a new subdivision are planned south of Rockton.
- Presently, single contingency loss of any of the feeders SHWj676, SHWj1797, EARj1757, EARj535, and EARj539 can't be backed up from adjacent feeders.
- Feeder EARj1862 can be backed up from East Beloit but would have voltage levels below the minimum contingency voltage in some areas at peak.
- Furthermore, 6,460 kW of new load is planned in the area, which will exceed the capacity of the system under normal switching.

In addition to projects identified to meet capacity and voltage requirements, the study concluded that the most cost-effective way of improving reliability in the area is to add enough substation and line capacity to backfeed every circuit in the event of a substation or feeder outage.

The planned actions to enhance the delivery system in the SBWGE area include building a new 69/12.47 kV, 25 MVA substation in south Rockton with four distribution feeders. Three of the feeders will tie into the existing feeders EARj1757 and SHWj676. The fourth feeder will go east from the substation, across a portion of Commonwealth Edison's service territory, and tie into feeders EARj535 and EARj539.

In addition to resolving the capacity issues identified in the study, no major reliability issues are foreseen in the next 10 years. However, SBWGE will continue to manage the reliability of the system through our on going capital and maintenance processes. These processes will involve the following activities.

- Substation predictive maintenance – on an annual cycle SBWGE inspects and tests substation equipment to insure that it remains in good health. This process allows us to identify operating issues with equipment before it creates an outage condition.

- Underground distribution age – currently underground cables that experience a failure are reviewed by engineering to insure that they do not become a reliability concern. Once a cable has been identified as a reliability concern, a project is created to replace it. A reliability concern is one where a cable is either 25 years of age or has experienced more than 3 failures.

- Overhead distribution age - currently overhead systems that are over 60 years of age are monitored to insure that they do not become a reliability issue. Review of the system is done through normal line inspection and regular review of reliability reports. When a circuit is found to have reliability performance issues a root cause analysis is conducted to determine appropriate actions. Considerations include reliability performance, physical condition, and age. Upon completion of the root cause analysis appropriate action is taken, which may include the creation of a project.

- Line clearance maintenance – SBWGE has plans to spend over $265,000 on line clearance activities over the next 3 years. This will allow SBWGE to keep tree related outages to an acceptable level.

iv. The plan shall provide a timetable for achievement of the plan's goals.

Projects required to install new substation

Project Name	Estimated Cost	Estimated In-Service Date
White School Rd Rebuild	$134,099	02/20/2003
Ledges Cable Replacement	$275,851	08/09/2002
Woodward Governor Switchgear Replacement	$68,000	04/21/2002
Shaw J690-S Feeder Addition	$168,761	04/01/2003
River Road New Substation	$2,550,000	06/01/2004
East/West River St Rebuild	$72,157	07/20/2003
McCurry Road Move	$57,800	04/01/2003
River Rd Rebuild	$184,098	12/31/2003
Union St Rebuild	$123,417	12/31/2003
E Rockton, McCurry, Willowbrook Rds RBLD	$322,874	10/01/2004

v. The plan shall report and address all unresolved reliability complaints about the jurisdictional entity's system received from other utilities, independent system operators, and alternative retail electric suppliers.

SBWGE has no unresolved reliability complaints.

vi. The plan shall report the specific actions, if any, the jurisdictional entity is taking to address the concerns raised in such complaints received from other utilities, independent system operators, and alternative retail electric suppliers.

No plan of action is required.

vii. The plan must consider all interruption causes listed in Section 411.120(b)(3)(D).

With the addition of the new substation and the continuation of ongoing activities as listed in section 411.120 b) 3) A) iii controllable outages will continue to be managed to reasonable levels.

viii. The plan must consider the effects on customers and the cost of reducing the number of interruptions reported as required by Section 411.120(b)(3)(C).

Other options were ruled out due to either higher costs, or less desirable operating characteristics. The addition of the substation and distribution system upgrades will improve the reliability in the area by providing backfeed capacity. The addition of six circuits in the area will further improve reliability by reducing the length of existing feeders and number of customers served on a circuit

[411.120 b) 3) B)]:

A report of the jurisdictional entity's implementation of its plan filed pursuant to subsection (b)(3)(A) for the previous annual reporting period, including an identification of significant deviations from the first year of the previous plan and the reasons for the deviations.

Prior to 2002, SBWGE was exempt from filing annual reliability reports pursuant to Illinois Administrative Code 411.110(b).

[411.120 b) 3) C)]:

The number and duration of planned and unplanned interruptions for the annual reporting period and their impacts on customers.

Planned and Unplanned Interruption

Interruption Type	Number of Interruptions	Average Duration (per interruption)
Planned	**5**	**39 minutes**
Unplanned	**251**	**82 minutes**

On average SBWGE customers experienced 1.3 outages with an average duration of 127 minutes. These outages may a have imposed some customer inconveniences or loss of productivity based on when they occurred.

[411.120 b) 3) D)]:

The number and causes of controllable interruptions for the annual reporting period.

Controllable Interruptions

CAUSE	NUMBER
Tree Growth	21
Planned	5
Testing	1
Overload	1

[411.120 b) 3) E)]:

Customer service interruptions that were due solely to the actions or inactions of another utility, another jurisdictional entity, independent system operator, or alternative retail electric supplier for the annual reporting period.

South Beloit customers experienced no outages in 2002 that were caused solely by other utilities, jurisdictional entities, independent system operators or alternative retail suppliers.

[411.120 b) 3) F)]:

A comparison of interruption frequency and duration for customers buying electric energy from the jurisdictional entity versus customers buying electric energy from another utility or alternative retail electric supplier for the annual reporting period. A jurisdictional entity may base this comparison on each customer's supplier as of December 31. A jurisdictional entity need not include this information for customers whose electric energy supplier is not known to the jurisdictional entity.

At this time SBWGE has no customers that receive power from an alternative retail supplier.

[411.120 b) 3) G)]:

A report of the age, current condition, reliability and performance of the jurisdictional entity's existing transmission and distribution facilities, which shall include, without limitation, the data listed below. In analyzing and reporting the age of the jurisdictional entity's plant and equipment, the jurisdictional entity may utilize book depreciation. Statistical estimation and analysis may be used where actual ages and conditions of facilities are not readily available. The use of such techniques shall be disclosed in the report.

i)]: A qualitative characterization of the condition of the jurisdictional entity's system defining the criteria used in making the qualitative assessment, and explaining why they are appropriate.

The SBWGE distribution system has 5,482 poles in-service with an estimated age of approximately 27 years, based on pole records. Through detailed pole inspections and testing of the 5482 poles less then 0.6% are currently in need of replacement, however, approximately 500 poles are currently over the age of 60 years and are of concern. With an overall average age of less than 30 years and a pole rejection rate of less than 1%, the distribution system is in good condition.

The SBWG&E distribution system also includes 4 substations. Based on condition assessments of the major components, infrared scans, major component age and existing corrective and preventative maintenance activities, each of these stations are currently in good working order.

Station Equipment	Average Age*
Battery Systems	6
Capacitor Banks	19
Power Transformers	9
Reclosers	8
Voltage Regulators	17

* Average age is an estimate based on information contained in Alliant Energy's maintenance management system.

ii)]: A summary of the jurisdictional entity's interruptions and voltage variances reportable under this Part, including the reliability indices for the annual reporting period.

SBWGE distribution system had 256 outages in 2002 resulting in 6,953 customer experiencing one or more interruptions. In addition 1,355 customers experienced no interruption in 2002.

Year	SAIFI	CAIDI	CAIFI*
2002	1.30	97.77	1.69

Comment: Doesn't CAIFI, by definition, have to be at least 1?

At this time Alliant Energy is working with the outage management software vender to correct issues with identifying customers impacted by an outage. Until this problem is resolved CAIFI will not always be accurate.

DESCRIPTION	# Of Interruptions	% Of Total Interruptions	Customer Minutes Out	% Customer Minutes Out
ACCIDENT/OUTAGE BY OTHERS	28	10.94%	3077	14.80%
ANIMAL	41	16.02%	2820	13.56%
EQUIPMENT FAILURE	52	20.31%	6765	32.54%
FOREIGN/OTHER UTILITY *	2	0.78%	106	0.51%
HIGH WINDS	7	2.73%	522	2.51%
LIGHTNING	37	14.45%	3128	15.04%
OTHER	42	16.41%	562	2.70%
OVERLOAD	1	0.39%	159	0.76%
PLANNED	5	1.95%	196	0.94%
SWITCHING ERROR	2	0.78%	39	0.19%
TESTING	1	0.39%	0	0.00%
TRANSFORMER FAILED	2	0.78%	363	1.75%
TREE GROWTH	21	8.20%	1702	8.19%
UNDERGROUND CABLE	1	0.39%	425	2.04%
UNKNOWN	14	5.47%	927	4.46%
Total	256	100.00%	20791	100.00%

* These outages were not included in section 411.120 b) 3) E because of the nature of the outages.

iii)]: The jurisdictional entity's expenditures for transmission construction and maintenance for the annual reporting period expressed in constant 1998 dollars, the ratio of those expenditures to the jurisdictional entity's transmission investment, and the average remaining depreciation lives of the entity's transmission facilities, expressed as a percentage of total depreciation lives.

With the formation of the American Transmission Company, South Beloit no longer owns transmission facilities.

iv)]: The jurisdictional entity's expenditures for distribution construction and maintenance for the annual reporting period expressed in constant 1998 dollars, the ratio of those expenditures to the jurisdictional entity's distribution investment, and the average remaining depreciation lives of the entity's distribution facilities, expressed as a percentage of total depreciation lives.

Expenditures For SBWGE
Distribution Construction and Maintenance
(Year of Occurrence $)

	2002	2001	2000	1999	1998
Construction	621,425	1,091,001	851,585	579,784	498,929
O&M	438,843	592,112	402,816	388,754	238,236
Total	1,060,268	1,683,113	1,254,401	968,538	737,165

Ratio of SBWGE Distribution Construction and Maintenance Expenditures
To Distribution Investment
(Year of Occurrence $)

	2002	2001	2000	1999	1998
Distribution Investment	15,750,355	15,182,987	13,424,985	12,597,128	11,695,647
Ratio (Total Expenditures/ Distrib Investment)	6.7%	11.1%	9.3%	7.7%	6.3%

Expenditures For SBWGE
Distribution Construction and Maintenance
(1998 $) *

	2002	2001	2000	1999	1998
Construction	562,987	1,013,094	810,570	565,643	498,929
O&M	397,575	549,830	383,415	352,611	238,236
Total	960,562	1,562,924	1,193,985	918,254	737,165

Ratio of SBWGE Distribution Construction and Maintenance Expenditures
To Distribution Investment
(1998 $) *

	2002	2001	2000	1999	1998
Distribution Investment	15,750,355	15,182,987	13,424,985	12,597,128	11,695,647
Ratio (Total Expenditures/ Distrib Investment)	6.1%	10.3%	8.9%	7.3%	6.3%

* Average annual inflation rate for years 1999 - 2002 is 2.5%. Year of occurrence dollars were deflated by 2.5% per year using the formula $/(1+.025)^{n.}$ Inflation information obtain from the Ibbotson Associates 2003 SBBI Yearbook

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South Beloit Water, Gas & Electric company
Electric Distribution Plant

Acct	Description	Plant in Service 12/31/02	Average Age	Average Remaining Life
360.0	Land & Land Rights	41,637.90	17.9	
361.0	Structures & Improvements	209,517.04	11.2	28.8
362.0	Substation Equipment	2,216,211.90	7.9	24.1
364.0	Poles, Towers & Fixtures	1,933,093.27	27.6	12.4
365.0	OH Conductor and Devices	1,804,249.67	30.6	9.0
366.0	UG Conduit	40,721.18	5.2	34.8
367.0	UG Conductor and Devices	3,736,581.27	11.5	22.5
368.0	Transformers	2,541,066.48	22.3	8.6
369.0	Services - Overhead	269,310.90	32.1	-2.1
369.2	Services - Underground	2,042,581.56	13.7	21.3
370.0	Meters	616,473.62	15.0	0.0
373.0	Street Lighting & Signaling	298,909.68	11.1	7.3
		15,750,354.47		

Average age was based on weighting of plant in service balances by vintage.

v)]: The results of a customer satisfaction survey completed during the annual reporting period and covering reliability, customer service, and customer understanding of the jurisdictional entity's services and prices.

The table below shows the mean rating, out of 10, by customer class.

	Residential	Non-Residential
Reliability	8.78	9.04
Service	8.78	8.85
Rates	7.41	7.30

vi)]: An overview pertaining to the number and substance of customers' reliability complaints for the annual reporting period and their distribution over the jurisdictional entity's operating areas.

SBWGE had no reliability complaints for the reporting period.

vii)]: The corresponding information, in the same format, for the previous 3 annual reporting periods, if available.

Prior to 2002, SBWGE was exempt from filing annual reliability reports pursuant to Illinois Administrative Code 411.110(b).

[411.120 b) H)]:

A table showing the achieved level of each of the three reliability indices of each operating area for the annual reporting period (provided however, that for any reporting period commencing before April 1, 1998, a jurisdictional entity will not be required to report the CAIFI reliability index)

Year	SAIFI	CAIDI	CAIFI*
2002	1.30	97.77	1.69

Comment: Doesn't CAIFI, by definition, have to be at least 1?

* At this time Alliant Energy is working with the outage management software vender to correct issues with identifying customers impacted by an outage. Until this problem is resolved CAIFI will not always be accurate.

[411.120 b) l)]:

A list showing the worst-performing circuits for each operating area for the annual reporting period with the understanding that the designation of circuits as "worst-performing circuits" shall not, in and of itself, indicate a violation of this Part.

CIRCUIT #	SUB	Area Served	Voltage	District
EARJ1757	EAST ROCKTON	East Rockton 2	12.47	Beloit
	Year	SAIFI	CAIDI	CAIFI
	2002	3.79	35.98	3.79
	2001	4.29	201.4	4.29
	2000	3.91	149.07	NA
SHWJ699	SHAW	Hwy 2 South	12.47	Beloit
	Year	SAIFI	CAIDI	CAIFI
	2002	1.24	140.60	1.24
	2001	* New Circuit in 2002		
	2000			
EARJ531	EAST ROCKTON	East Rockton 4	12.47	Beloit
	Year	SAIFI	CAIDI	CAIFI
	2002	2.95	66.72	3.97
	2001	0.66	181.85	2.0
	2000	0.50	66.85	NA

[411.120 b) 3) J)]:

A statement of the operating and maintenance history of circuits designated as worst-performing circuits; a description of any action taken or planned to improve the performance of any such circuit (which shall include information concerning the cost of such action); and a schedule for completion of any such action. (The jurisdictional entity may decide, based on cost considerations or other factors, that it should take no action to improve the performance of one or more circuits designated as worst-performing circuits. If the jurisdictional entity decides to take no action to improve the performance of one or more circuits designated as worst- performing circuits, the jurisdictional entity shall explain its decision in its Annual Report).

EARJ1757

This circuit had one recloser operation and several other switches recorded for zero minutes that were not filtered out during the Engineering requests. Filtering out this data, the circuit would have a SAIFI of 1.34. There were two major outages, an underground cable failure and an outage due to others. Line clearance performed in 1999. Line patrol was performed in 1999 and scheduled for 2007.

Actions - The underground cable was repaired at the time of failure and is being reviewed for replacement total cost of the project is unknown at this time. In addition line clearance is planned for 2003 at an estimated cost of $10,800. No additional actions will be taken.

EARJ531

This circuit was high in CAIFI as well as a high SAIFI. This circuit had 480 people out more than three times. The recloser operated 3 times. One outage was an UG getaway failure. Two outages were caused by lightning that tripped the recloser. Fuse J219 had five operations due to trees that affected 74 customers. Line clearance was performed in 1998 and is scheduled for 2003. Line patrol was performed in 1999 and scheduled for 2007.

Actions – Performance on this circuit should improve with the completion of line clearance planned in 2003 at an estimated cost of $16,000. The splice that failed on the UG system was replaced at an estimated cost of $1,000.

SHWJ699

This circuit had a high CAIDI because it only had one major outage. Customers on this circuit were out for 2.38 hours due to a conductor failure on the main feeder stem. This line is schedule for line clearance in 2004. Line patrol was performed in 2002 and scheduled for 2012.

Action – The conductor will be replaced in June of 2003 at an estimated cost of $126,000. Line clearance will be completed at an estimated cost of $15,400.

[411.120 b) 3) K)]:

Commencing June 10, 2001, tables or graphical representations, covering for the last three years all of the jurisdictional entity's customers and showing, in ascending order, the total number of customers which experienced a set number of interruptions during the year (i.e., the number of customers who experienced zero interruptions, the number of customers who experienced one interruption, etc.).

NUMBER OF INTERRUPTIONS	NUMBER OF CUSTOMERS INTERRUPTED
0	1355
1	3552
2	1459
3	1445
4	297
5	106
6	20
7	47
8	27

[411.120 b) 3) L)]:

Commencing June 10, 2001, for those customers who experienced interruptions in excess of the service reliability Targets, a list of every customer, identified by a unique number assigned by the jurisdictional entity and not the customer's name or account number, and the number of interruptions and interruption duration experienced in each of the three preceding years, and the number of consecutive years in which the customer has experienced interruptions in excess of the service reliability Targets.

SBWGE had no customers that experienced interruptions in excess of the service reliability targets.

[411.120 b) 3) M)]:

The name, address and telephone number of a jurisdictional entity representative who can be contacted for additional information regarding the Annual Report.

Any requests for additional information should be directed to:
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July 10, 2003